

## Understanding the Journey of Patients with Alexithymia in Palestine: A Systematic Analysis of Cancer Patients

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### Abstract

This study aimed to understanding the journey of cancer patients with Alexithymia in Palestine, in a systematic analysis. The study approached the literature as a multi-dimensional phenomenon, which addressed both theoretical and applied research. The significance of this recent study is the first, which dealt with this theme, to the authors' knowledge, which in turn encourages other researchers to work on further research on this important topic. The study used the quantitative approach, in a cross-sectional study, using the sampling survey method. The questionnaire is appropriate for the exploratory nature of the research. Five hundred seventy-nine cancer patients were stratifiedly calculated, and selected using the purposive sampling method. The sample size was calculated using the sampling web of <http://www.surveysystem.com/sscalc.htm>, with a margin error of 0.04. TAS-20 item scale was used to measure the journey of cancer patients with Alexithymia that was introduced by Bagby *et al.* (1994), taking into consideration the cultural appropriateness in the Palestinian society. The collected data was statistically analyzed using the statistical package for social sciences (SPSS). The study concluded that (78.8%) of the participating patients had a high level of Alexithymia (M 3.94, SD 0.64). Moreover, findings showed that gender, and hospital authority do not show any significant differences, however, it was found that marital status, qualification, age, and cancer stage were significant variables. The study recommends, understanding Alexithymia among cancer patients, by HealthCare Providers can improve the prognosis of cancer patients, and further research is essential in the area of Alexithymia among cancer patients using the quantitative research design.

**Keywords:** Alexithymia, Cancer Patients, TAS-20, Palestine.

### 1. Introduction

Expressions of feelings have always been one of the most prominent features of human beings compared to other beings, as they have the ability to express their emotions and what is in their

mind. Emotions are salient internal states that can promote adaptive behavioral outputs (Darwin, 1872).

Humans express what they sense in more than one manner, sometimes with words, sometimes with body language, and other times with simple lines or by poems, or even books. In terms of Alexithymia, things work differently. Humans who suffer from Alexithymia may have trouble recognizing their own emotions and the emotions of others (Sifneos, 1996, 2000).

A 2023 review of research notes that around 10% of the general population experience Alexithymia, and that it may be more common in males than females (Aljaffer *et al.*, 2022; Liu *et al.*, 2023). Alexithymia is a common feature of individuals with psychiatric or neurodevelopmental disorders, including autism, spectrum disorder, depression, Parkinson disease, cancer, and PTSD (Sifneos, 1996, 2000; Lesser, 1985; Hogeveen & Grafman, 2021).

Cancer patients are more likely to experience Alexithymia rather than other patients due to the challenges posed by this serious illness. Research estimates anywhere from 37 to 39.7 percent of cancer patients have varying degrees of Alexithymia. In a recent study, Liu *et al.* (2023) found that the pooled prevalence of Alexithymia among cancer patients was 37.0%, and higher in developing countries, males, and patients with colorectal cancer. However, Okanli *et al.* (2018) concluded that 50.5% of the cancer patients had Alexithymia.

As a result of that, the prevalence of Alexithymia is significantly higher among cancer patients compared to the general population. Building on the understanding that cancer patients are more susceptible to Alexithymia and that mental well-being can positively impact healing, this study seeks to assess the prevalence of Alexithymia among Palestinian cancer patients, addressing the indicators of Alexithymia among them, and identify the demography breakdown over Alexithymia prevalence among Palestinian cancer patients with the aim of identifying any statistically significant differences.

## 2. Background and Literature Review

Alexithymia is a personality trait characterized by difficulty identifying, processing, and describing one's own emotions, with appropriate language as well as differentiating those feelings from bodily sensations. It is not a mental disorder but a condition that can impact mental health and social

interactions. Individuals with Alexithymia may confuse physical sensations with emotions and struggle to express their feelings, leading to emotional detachment (Sifneos, 1996, 2000).

Alexithymia was widely explored by two known American psychiatrists named Peter Emanuel Sifneos and John Case Nemiah in the early 1970s, however, the psychological concept of Alexithymia was first described in the late 1940s. Alexithymia etymology comes from Ancient Greek words -a- (without), -lexis- (word), and -thymos- (emotion). Taken altogether, Alexithymia means “a lack of words for emotion”. Alexithymia is characterized by an impaired ability to be aware of, explicitly identify, and describe one’s feelings (Nemiah *et al.*, 1976; Sifneos, 1996, 2000; Lesser, 1985; Hogeveen & Grafman, 2021).

Alexithymia has been defined as a personality trait, which is associated with difficulties in emotion recognition and regulation (Swart *et al.*, 2009). Alexithymia is not a symptom or disorder but rather a psychiatric construct, and a personality trait that describe the typical way of thinking, feeling, and behaving). Individuals with Alexithymia are at higher risk of other psychiatric conditions as well as various somatic symptoms and behavioral disorders (Brzenzinski, 1995).

Individuals with Alexithymia might struggle to recognize the physical sensations associated with different emotions, differentiate between similar emotions, or articulate their emotional experiences. Additionally, they may have difficulty understanding the emotions of others and struggle to build and maintain social relationships.

## 2.1 Types of Alexithymia

Understanding of Alexithymia continued to transform over the next few decades. Researchers began to look further into the causes of the personality trait. Early on, experts divided the condition into primary and secondary Alexithymia, as follows:

**2.1.1 Primary Alexithymia** is a life-long dispositional factor that can lead to psychosomatic illness (Lesser, 1985). It may drive from childhood trauma (Krystal,1979) or from negative primary caregivers’ interactions (Wearden *et al.*, 2003). To sum up, primary Alexithymia was described as resulting from structural and neurobiological deficits (Kano *et al.*, 2012; Messinta *et al.*, 2014).

**2.1.2** Secondary Alexithymia was viewed as a consequence of environmental factors such as developmental issues or traumatic episodes (Taylor *et al.*, 1997).

These divisions were later dropped as researchers began to understand the complexities involved in the emergence of Alexithymia.

## **2.2 Alexithymia Features**

Literature review of Alexithymia showed that the condition has two dimensions, a cognitive dimension and an affective dimension. In the cognitive dimension, the patient struggles to recognize, verbalize, and interpret feelings. In the affective dimension, the patient experiences difficulty expressing his or her own emotions as well as using his or her imagination and reacting to other people's feelings (Thompson, 2009).

Nemiah *et al.* (1976) and his associates' defined Alexithymia as a complex personality construct with four distinct features as follows:

- 2.2.1 Difficulty recognizing emotions and differentiating feelings from emotionally aroused physical sensations
- 2.2.2 Difficulty explaining feelings to others
- 2.2.3 Limited imagination and ability to fantasize
- 2.2.4 Externally motivated style of thinking

Moreover, Poquérusse *et al.* (2018) proposed the following signs and symptoms among people with Alexithymia including:

- 2.2.5 Difficulties identifying feelings and emotions.
- 2.2.6 Problems distinguishing between emotions and bodily sensations that relate to those emotions.
- 2.2.7 Limited ability to communicate feelings to others.
- 2.2.8 Difficulties recognizing and responding to emotions in others, including tone of voice and facial expressions.
- 2.2.9 A lack of trusted source fantasies and imagination.
- 2.2.10 A logical and rigid thinking style that does not account for emotions.
- 2.2.11 Difficulty coping with stress.

2.2.12 Behaving less altruistically than others.

2.2.13 Appearing distant, rigid, and humorless.

2.2.14 Low sense of life satisfaction.

## 2.3 Alexithymia Causes

Until now, the exact causes of Alexithymia are unknown; however, there are currently several proposed mechanisms (Hogeveen *et al.*, 2016; Jørgensen *et al.*, 2007), as follows:

**2.3.1 Genetics:** Studies indicated that there is a genetic component to Alexithymia. People are more likely to have Alexithymia if a close relative also has it.

**2.3.2 Environmental factors:** Studies also indicated that environmental factors play a role in Alexithymia. Examples of environmental factors include a history of childhood trauma, the presence of a physical or mental health condition, or socioeconomic factors.

**2.3.3 Brain injury.** Previous studies indicated that people with injury to a part of the brain known as the anterior insula experience increased levels of Alexithymia.

## 2.4 Measures of Alexithymia

Alexithymia is a multi-faceted construct, also Alexithymia scales are both research and diagnostic instruments. The starting point of Alexithymia measurement is the original description of the Alexithymia construct as provided by Nemiah and Sifneos (1970), and Sifneos (1973).

Traditionally, Alexithymia has been most commonly assessed using Toronto Alexithymia Scale (TAS) introduced by Bagby *et al.* (1994). The Toronto Alexithymia Scale (TAS) is a 20-item self-report questionnaire that can be used to identify issues relating to Alexithymia such as difficulty recognizing, describing and regulating internal emotional states (Bagby *et al.*, 1994).

The TAS distinguishes three components of Alexithymia, reflected by the following subscales:

**2.4.1 Difficulty Identifying Feelings:** In therapy, trouble noticing emotions can hinder formulation, articulation of issues and goal setting.

**2.4.2 Difficulty Describing Feelings:** Clients with barriers to communication can hinder mutual understanding, which may become an issue that leads to a lack of engagement in therapy.

2.4.3 Externally Oriented Thinking: High scorers may have a fixation on external stimuli as opposed to internal emotions. In addition, high scores may indicate low empathy.

TAS items are scored on a 5-point scale ranging from 1 (strongly disagree) to 5 (strongly agree). There are five reverse-scored items. Higher scores indicate higher levels of Alexithymia (Bagby *et al.*, 1994).

Recently, the Perth Alexithymia Questionnaire (PAQ) was introduced to enable more comprehensive and valence specific Alexithymia assessments. The PAQ is a 24-item self-report measure designed to assess the components and sub-scales of Alexithymia.

Thus, the PAQ consists of five intended subscales: (1) Negative-Difficulty identifying feelings, (2) Positive-Difficulty identifying feelings, (3) Negative-Difficulty describing feelings, (4) Positive-Difficulty describing feelings, and (5) General-Externally orientated thinking. PAQ items are scored on a 7-point scale ranging from 1 (strongly disagree) to 7 (strongly agree). Higher scores indicate higher levels of alexithymic traits (Preece *et al.*, 2018).

## 2.5 Alexithymia and Cancer

Cancer is a large group of diseases that can start in almost any organ or tissue of the body when abnormal cells grow uncontrollably, go beyond their usual boundaries to invade adjoining parts of the body and/or spread to other organs (American Cancer Society, 2023).

Cancer is a leading cause of death worldwide, accounting for nearly 10 million deaths in 2020, or nearly one in six deaths. The most common cancers are breast, lung, colon, and rectum and prostate cancers. Around one-third of deaths from cancer are due to tobacco use, high body mass index, alcohol consumption, low fruit and vegetable intake, and lack of physical activity. In addition, air pollution is an important risk factor for lung cancer (WHO, 2025).

While it is difficult to provide exact 2025 statistics for Palestine due to ongoing conflict and data limitations, reports indicate cancer is a growing concern, particularly in Gaza. In 2020, Globocan data showed that lung and breast cancers were among the leading causes of death in Gaza. The ongoing humanitarian crisis, including limited access to healthcare, is likely exacerbating the situation (Ministry of Health, 2025).

In Palestine, cancer is a significant cause of mortality, ranking as the second leading cause of death at 14%, after cardiovascular diseases at 30%. The cancer burden in Palestine is expected to increase, reaching levels that further challenge the financial and infrastructural resources of the current health-care system, of which financial and political uncertainty exacerbate the problem (Ministry of Health, 2025).

The cancer crude incidence rate doubled from 53.7 per 100,000 populations in 2010 to 119.2 per 100,000 populations in 2021. During the period 2017 to 2021, a total of 15,822 new cancer cases were diagnosed in West Bank, of which 15,756 cases were invasive cases and 64 cases were non-invasive cases. The crude incidence rate CIR of invasive cases was 116.7 per 100,000 populations (Ministry of Health, 2025).

In the West Bank, there were more than 200 types of cancer, just these five types - breast, colorectal, lung, leukemia, and thyroid - together account for about half (47%) of all new cancer cases between 2017-2021. Breast cancer was the most common cancer, 15.9% of all cancer cases in 2019 (incidence rate was 18.5 per 100,000 population). This was followed by colorectal cancer with 1,978 cases and CIR 14.7 cases per 100,000 populations. Lung cancer ranked 3rd, representing 7.7% of all registered cancer cases (Ministry of Health, 2025).

Globally, approximately 37% of cancer patients exhibit Alexithymia, a difficulty identifying and describing emotions. This condition is more prevalent in developing countries, among men, and in those with colorectal cancer. Alexithymia in cancer patients can impact their psychological outcomes, including their perception of illness and coping mechanisms (Liu *et al.* 2023).

This study investigates the potential association between Alexithymia and somatic diseases, specifically focusing on cancer. The rationale for this exploration lies in the possibility that the experience of cancer, including its physical manifestations and associated pain, might contribute to emotional processing difficulties in cancer patients. These difficulties could manifest as challenges in identifying and expressing one's own emotions, or in understanding the emotions of others. Understanding the status of Alexithymia in cancer patients, timely identification and treatment by medical practitioners can improve the prognosis of cancer patients. In this context, Cakmak *et al.* (2021) concluded that Alexithymia is an important consideration in cancer patients, and promoting

a fighting spirit response in cancer patients, and particularly Alexithymia patients, could contribute to the development of posttraumatic growth.

### 3. Further Related Studies

Alexithymia among cancer patients has been the focus of attention for some previous studies that were conducted globally, taken into consideration the effect of cancer on patients psychologically. In a recent study, Zhang *et al.* (2025) examined Alexithymia and its influence on perceived social support, stress, and help-seeking attitudes in 430 men undergoing radical prostatectomy. Higher levels of Alexithymia were significantly associated with lower perceived social support and more negative attitudes toward seeking psychological help. Alexithymia was also positively correlated with higher levels of perceived stress, and perceived social support and perceived stress were identified as statistically significant mediators in the relationship between Alexithymia and help-seeking attitudes.

In another study, Unal & Ordu (2023) explored the potential role of self-compassion, Alexithymia, and cognitive emotion regulation mechanisms in influencing depressive and anxiety symptoms among 151 stage 4 cancer patients. Findings accentuated the central role self-compassion, emotional resilience, and cognitive regulation play in the emotional well-being of individuals diagnosed with cancer, and targeted therapeutic interventions focusing on these dimensions may enhance the psychological health of patients, ultimately improving overall treatment outcomes in the oncological setting.

In a systematic review and meta-analysis study, Liu *et al.* (2023) evaluated the prevalence of Alexithymia in cancer patients and to compare the prevalence of Alexithymia in different countries, genders, and cancer types. Findings revealed that the pooled prevalence of Alexithymia in cancer patients was 37.0%, and higher in developing countries, males, and patients with colorectal cancer. Understanding the status of Alexithymia in cancer patients, timely identification and treatment by medical practitioners can improve the prognosis of cancer patients.

The study of Eraslan *et al.* (2023) stated that Alexithymia might be associated with depression in early stages among 200 breast cancers patients by using the Toronto Alexithymia Scale (TAS).

Findings showed that Alexithymia has a role in depression pathogenesis in early-stage of breast cancer in patients.

Cakmak *et al.* (2021) addressed the association of cancer response styles and Alexithymia with posttraumatic growth in 89 breast cancer patients. Findings indicated that, Alexithymia is an important consideration in breast cancer patients, and promoting a fighting spirit response in breast cancer patients, and particularly alexithymic patients, could contribute to the development of posttraumatic growth.

In a cross-sectional study, Hermoso *et al.* (2020) explored the importance of Alexithymia in post-surgery, the differences on body image, and psychological adjustment in 119 women diagnosed with breast cancer (stages I, II, and III). Findings revealed that, when patients show high Alexithymia combined with having undergone a radical mastectomy, they show higher levels of hopelessness. In patients with high Alexithymia, higher scores of maladaptive coping styles and greater distortion of body image were found. The study concluded that Alexithymia seems to play an important role in the way in which women cope with their disease, especially in those with radical mastectomy.

The study of Okanli *et al.* (2018) aimed to determine how Alexithymia affects the perception of illness in patients with cancer. Data were collected from 283 patients with cancer. The study concluded that 50.5% of the participating patients had Alexithymia. It was found that the Alexithymia patients with cancer perceived the negative outcomes of their illness more strongly, and their negative feelings about the illness were more intense. This study suggests that further research should be carried out on Alexithymia in patients with cancer and that their positive beliefs about the illness could be enhanced using psychosocial interventions.

#### **4. Statement of the Problem**

Alexithymia as a personality trait is most likely to appear in various mental illnesses such as eating disorder, PTSD and occurs in somatic illnesses such as cancer.

Prevalence of Alexithymia among cancer patients is high compared to the general population, since cancer as complex disease arises and worsens due to a combination of factors that go beyond, just genes and environment, making psychological and emotional elements to influence the disease progression (Unal *et al.*, 2023).

Scholars have just begun to attend to the conceptualization of Alexithymia among general population, rather than cancer patients. However, far less attention has been devoted to the empirical test of such assumptions in the Palestinian occupied society, which remains unclear. The purpose of the current study is to investigate the construct of Alexithymia among Palestinian cancer patients, addressing the indicators of Alexithymia among them, and identify the demography breakdown over Alexithymia prevalence among Palestinian cancer patients with the aim of identifying any statistically significant differences, where empirical studies of such an important topic are scarce. The current study is considered one of the leading studies, and the first of its kind in the Palestinian society, to the authors' knowledge, that deal with Alexithymia in the Palestinian occupied society. It is expected to add a new scientific knowledge regarding Alexithymia in conflicted societies.

Previous studies had consistently highlighted the importance of psychological support in optimizing cancer treatment outcomes. A common understanding of the prevalence of Alexithymia in cancer patients, timely identification and treatment by medical practitioners can improve the prognosis of cancer patients. By illuminating this issue, we can pave the way for targeted psychosocial support, empowering patients to articulate their emotions, fostering a therapeutic alliance with healthcare providers, and ultimately enhancing their quality of life during treatment through this complex journey.

## 5. Hypotheses

Taking into consideration, the set objectives, questions and variables of the study, the study addresses the main hypotheses:

5.1 There are no statistically significant differences at  $\alpha \leq 0.05$  in Prevalence of Alexithymia Among Palestinian Cancer Patients according to gender.

5.2 There are no statistically significant differences at  $\alpha \leq 0.05$  in Prevalence of Alexithymia Among Palestinian Cancer Patients according to marital status.

5.3 There are no statistically significant differences at  $\alpha \leq 0.05$  in Prevalence of Alexithymia Among Palestinian Cancer Patients according to qualification.

5.4 There are no statistically significant differences at  $\alpha \leq 0.05$  in Prevalence of Alexithymia Among Palestinian Cancer Patients according to hospital authority.

5.5 There are no statistically significant differences at  $\alpha \leq 0.05$  in Prevalence of Alexithymia Among Palestinian Cancer Patients according to cancer stage.

5.6 There are no statistically significant correlation at  $\alpha \leq 0.05$  between age and Prevalence of Alexithymia Among Palestinian Cancer Patients.

## 6. Definition of Terms

**6.1 Alexithymia:** Alexithymia is a personality trait, which is associated with difficulties in emotion recognition and regulation. People with Alexithymia may also struggle to distinguish between bodily sensations and emotions, and have limited externalizing of their feelings (Nemiah *et al.*, 1976; Swart *et al.*, 2009).

**6.2 Cancer:** Cancer is a large group of diseases that can start in almost any organ or tissue of the body when abnormal cells grow uncontrollably, go beyond their usual boundaries to invade adjoining parts of the body and/or spread to other organs (American Cancer Society, 2023).

**6.3 Patient:** A person who is the recipient of health care. (WHO, 2011).

## 7. Limitations

The population of the current study was limited to Palestinian Cancer Patients, in the West Bank, Palestine during 2025, assuming that the selected sample represents the study population.

## 7. Methodology and Design

### 7.1 Approach

The study uses a quantitative design, in a cross-sectional study, using a questionnaire, which is appropriate to the exploratory nature of the research, and will provide more meaningful in-depth data.

## 7.2 Population and Sampling

The target population consists of cancer patients at hospitals in the West Bank during 2025, which includes 15,756 cancer patients totally. The population is comprised of 7,658 males and 8,099 females, as indicated in table no. 1 (Ministry of Health, 2025).

Five hundred seventy-nine Palestinian cancer patients were stratifiedly calculated, based on governorate and gender, and were selected using the purposive sampling method. The sample population consists of cancer patients who are living with their families, and hospitals at the time of the survey. The sample size was calculated using the sampling web. of <http://www.surveysystem.com/sscalc.htm>, with a margin error of 0.04.

## 7.3 Instrumentation

Toronto Alexithymia Scale (TAS-20) was used to measure Alexithymia among cancer patients, that was introduced by (Bagby *et al.*, 1994), taking into consideration the cultural appropriateness in the Palestinian society. A 5-point Likert scale (strongly agree, agree, neither, disagree and strongly disagree) was used to measure responses. The survey was conducted through face to face interviews in the West Bank by trained researchers. The sampling survey instrument sought background information about participants', which included age, gender, marital status, qualification, hospital authority, and cancer stage.

### 7.3.1 Instrument Validity

Validation of the instrument proceeded in three distinct phases. The initial phase involved a group of referees and expert arbitrators, who provided some comments on the tool. The second phase involved a two focus groups session (N=15); while the third phase involved the implementation of a pilot study (N=50) to validate the survey using exploratory factor analysis. Factor loading for all items exceeded 0.65 (0.69 to 0.93), which means that those items are suitable in measuring every item of Alexithymia among cancer patients, as indicated in table no. 8.

### 7.3.2 Instrument Reliability

The reliability was tested using Cronbach's Alpha and Guttman Split-Half coefficients to ascertain reliability and consistency of the survey. Cronbach's Alpha and Guttman split-half for the survey

instrument was 0.94 and 0.92, respectively, indicating excellent reliability and consistency, as indicated in table no. 10.

## 7.4 Sample Socio-demographic Characteristics

The demographic breakdown of the participants was based on age, gender, marital status, qualification, hospital authority, and cancer stage. In total, five hundred seventy-nine cancer patients and two focus groups were conducted. Respondents were between 18 and 75 years of age (M 50.73, SD 13.17). Females represented 58.4% of the participants, while the remaining 41.6% were males; and the vast majority (76.5%) were married. Half (48.9%) of the participants were well-educated (Diploma, and Bachelor or above), 32.5% had basic education, while the remaining 18.7% had a secondary education. Participants in the Governmental hospitals represented 80.3%, while the remaining 19.7% were from Non-governmental hospitals; and nearly 32.5% of the participants were in the second cancer stage, 28.3% in the third stage, 20.7% in the first stage, while the remaining 18.5% were in the fourth cancer stage, as indicated in tables' no. 2-7.

## 7.5 Data Analysis

The questionnaire items were rated on a 1–5 Likert scale (1=strongly disagree to 5=strongly agree), the highest score indicates a high level of Alexithymia. Descriptive statistics gauged prevalence of Alexithymia among the sampled population, using the following mean key (1-2.33=Low, 2.34-3.67=Moderate, 3.68-5=High).

Statistical analysis was performed using the Statistical Package for the Social Sciences (SPSS). The normality of the distribution of numerical data was evaluated using the Kolmogorov-Smirnov test. Additionally, the following statistical techniques were measured: Regression, T.test, One-way analysis of variance, Tukey test, Cronbach's Alpha, Guttman Split-Half Coefficient and Factor Analysis.

## 8. Findings

### 8.1 Prevalence of Alexithymia Among Palestinian Cancer Patients,

The mean score of prevalence of Alexithymia among Palestinian cancer patients as reported by the sample of five hundred seventy-nine cancer patients was high (M 3.94, SD 0.64). More than two-

third of the participating patients (78.8%) had a high level of Alexithymia, as indicated in table no. 10.

#### **4.1.2 Indicators of Prevalence of Alexithymia Among Palestinian Cancer Patients**

Furthermore, findings revealed the indicators of prevalence of Alexithymia among Palestinian cancer patients ranked in a descending order as follows, “It is difficult for me to find the right words for my feelings” (M 4.45, SD 0.61); “I am often confused about what emotion I am feeling” (M 4.29, SD 0.78). “I find it hard to describe how I feel about people” (M 4.28, SD 0.69); “I often don't know why I am angry” (M 4.20, SD 0.91), and “It is difficult for me to reveal my innermost feelings, even to close friends” (M 4.19, SD 0.99).

Moreover, Patients indicated that “I don't know what's going on inside me” (M 4.12, SD 0.96); “I prefer to just let things happen rather than to understand why they turned out that way” (M 4.06, SD 0.77); “I have feelings that I can't quite identify” (M 4.05, SD 0.67); “People tell me to describe my feelings more” (M 4.01, SD 0.99); and “I prefer talking to people about their daily activities rather than their feelings” (M 4.00, SD 0.65), as indicated in table no. 11.

#### **4.1.3 Differences in Prevalence of Alexithymia Among Palestinian Cancer Patients According to the Demographic Breakdown**

Furthermore, the study explored the demographic breakdown over Prevalence of Alexithymia among Palestinian Cancer Patients with the aim of identifying any differences. Findings showed that gender, and hospital authority do not show any significant differences, as indicated in tables’ no. 12, 17. However, it was found that marital status, qualification, age, and cancer stage were significant variables, as indicated in tables’ no. 13-16, 18.

In relation to marital status, the differences were in favor of married cancer patients (M 4.01, SD 0.64), compared to (M 3.72, SD 0.63) for single participating patients, T-test value was (-4.445, P=0.000), as indicated in table no. 13. As for qualification, the differences favored less-educated participating patients (M 4.25, SD 0.50), compared to (M 3.67, SD 0.66) for well-educated participating patients, F-value was 28.765, P=0.000), as indicated in tables no. 14-16.

Finally, findings indicated that there is statistically significant inverse correlation between age, cancer stage, and Prevalence of Alexithymia among Palestinian Cancer Patients, Beta-value was (0.193,  $P=0.000$ ) and (0.615,  $P=0.000$ ), respectively, as indicated in table no. 18.

## 9. Discussion, Conclusion And Recommendations

### 9.1 Discussion

The study concluded that (78.8%) of the participating patients had Alexithymia. The study findings supported theories about the correlation between cancer response style and the ability to express feelings. The inability to identify or be aware of emotions can sometimes be confused with an unwillingness to verbalize emotions, even when well aware. Alexithymia can often accompany many psychiatric disorders, such as substance abuse, eating abnormalities, somatoform disorder, depression, and anxiety disorders (Sifneos, 1996).

Alexithymia poses significant challenges for cancer patients and their limited ability to articulate their emotional experience, which leads and creates barriers to effective communication and explaining how they feel with their HealthCare Providers. Accordingly, this could lead to misdiagnosis, inadequate pain management, and a sense of isolation during an already difficult time. Additionally, the inability to process and express emotions healthily can contribute to increased stress and anxiety, potentially hindering the healing process with poor prognosis (Eraslan *et al.*, 2023; Cakmak *et al.*, 2021).

Findings revealed that married cancer patients experienced Alexithymia more than single participants. Consequently, with increased number of children, couples have more family responsibilities and deal with different problems including economic issues under the difficult living conditions prevalent in the Palestinian occupied society and new challenges (Banat, 2019b). Thus, this would agitate the stability of the family and increase their Alexithymia.

Furthermore, a negative correlation was found between qualification and prevalence of Alexithymia, less-educated cancer patients' participants developed more levels of Alexithymia. In fact, education plays an important role in communication skills, social integration that reinforces cancer patients' abilities in involvement in leisure activities, learning, making decisions and holding responsibility, which in turn decrease Alexithymia. In this context, Firjani (1998) points out that the

benefits of the essential role played by higher education in the development of backward societies are much higher than the anticipated economic calculations. Higher education plays a substantial role in the formation of a higher level of human capital in the society. Higher education institutions lay the groundwork for the cognitive revolution of knowledge and sophisticated abilities, namely, higher levels of human capital, which are the main backbone for progress in this century.

Additionally, Ramachandran & Radhika (2012) stated that education may allow people to have a better understanding of the cancer process and help to have better adaptability to the changing environments; and could have a positive effect on health through better knowledge in health care. Besides, Acharya (2008) acknowledged that education is an important tool in empowerment, which can help people gain a better understanding of their cases, rights and responsibilities, and give them more confidence about their opportunities, and decision-making.

The study's results also revealed that gender, and hospital authority did not indicate any significant differences over Alexithymia among Palestinian Cancer Patients. This indicates that Alexithymia trait is not very much influenced by these variables and are more likely to be affected by factors other than gender, and hospital authority.

Finally, a positive correlation was found between age, cancer stage, and prevalence of Alexithymia among cancer patients' participants. In this sense, Cakmak *et al.* (2021) concluded that, it could be expected that individuals who are in the advanced stages of life and closer to the reality of death might experience low levels of Alexithymia when confronted with a diagnosis of cancer, and the observation of a positive correlation between age and the fatalism reaction style was consistent and suggests that fatalism may become more prominent in individuals with age. Additionally, Mystakidou *et al.* (2008) found that age was an important predictor of new possibilities and appreciation of life; however, they indicated that young women had the highest level of post-traumatic growth and Alexithymia.

Moreover, in the era of globalization and technology, perhaps younger participants direct more cognitive effort to maintain positive emotions and avoid negative ones. However, the senior participants face greater social, emotional responsibilities toward their families' health and protection under the difficult living conditions prevalent in the Palestinian society and the new

challenges, which would agitate the stability of their families and increase the prevalence of Alexithymia in their daily life (Banat, 2019a, 2019b; Banat *et al.*, 2021; Yan *et al.*, 2021).

To conclude, a cancer diagnosis is typically a stressful experience and can have negative physical, mental, and social effects. Reactions to this life event may include fear, sadness, anger, anxiety, and depression. The reactions of cancer patients can include elements seen in post-traumatic stress disorder (PTSD), including intrusive ideation, reactivity to reminders, and avoidance. Cancer has been reported to be a traumatic stress factor in several studies (Mulligan *et al.*, 2014; Andrykowski *et al.*, 2015; Cordova *et al.*, 2017; Eraslan *et al.*, 2023; Cakmak *et al.*, 2021).

## 9.2 Conclusion And Recommendations

Alexithymia is a prevalence phenomenon among cancer patients. The current study revealed that (78.8%) of the sampled population of the Palestinian cancer patients' experienced a high levels of Alexithymia, and the prevalence of Alexithymia was higher among married, less-educated, aged, and higher cancer stages. Understanding Alexithymia among cancer patients, by HealthCare Providers can improve the prognosis of cancer patients, offering a program of psychological and **emotional** support, and defense mechanisms for **cancer patients** and their families is needed, and further research is essential in the area of Alexithymia among cancer patients using the quantitative research design.

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## CONFLICTS OF INTEREST

The authors declare no conflicts of interest regarding the publication of this paper.

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## 9.4 Appendixes

**Table no. (1). Distribution of Cancer Patients Population and Sample in the West Bank, Palestine 2025 by Governorate and Gender**

| Governorate         | Population   |              | Total         | Sample     |            | Total      |
|---------------------|--------------|--------------|---------------|------------|------------|------------|
|                     | Male         | Female       |               | Male       | Female     |            |
| Hebron              | 1,790        | 1,909        | 3,699         | 56         | 80         | 136        |
| Nablus              | 1,199        | 1,372        | 2,571         | 38         | 57         | 95         |
| Ramallah & Al-Bireh | 1,167        | 1,276        | 2,443         | 37         | 53         | 90         |
| Jenin               | 977          | 921          | 1,898         | 31         | 38         | 69         |
| Bethlehem           | 728          | 760          | 1,488         | 23         | 32         | 55         |
| Tulkarem            | 622          | 661          | 1,283         | 19         | 28         | 47         |
| Qalqiliya           | 344          | 330          | 674           | 11         | 14         | 25         |
| Jerusalem           | 266          | 283          | 549           | 8          | 12         | 20         |
| Salfit              | 223          | 245          | 468           | 7          | 10         | 17         |
| Tubas               | 188          | 176          | 364           | 6          | 7          | 13         |
| Jericho & Al-Aghwar | 153          | 166          | 319           | 5          | 7          | 12         |
| <b>Total</b>        | <b>7,657</b> | <b>8,099</b> | <b>15,756</b> | <b>241</b> | <b>338</b> | <b>579</b> |

**Table no. (2). Sample distribution by Gender**

| Gender       | N          | Percent %  |
|--------------|------------|------------|
| Male         | 241        | 41.6       |
| Female       | 338        | 58.4       |
| <b>Total</b> | <b>579</b> | <b>100</b> |

**Table no. (3). Sample distribution by Marital Status**

| Marital Status | N          | Percent %  |
|----------------|------------|------------|
| Single         | 136        | 23.5       |
| Married        | 443        | 76.5       |
| <b>Total</b>   | <b>579</b> | <b>100</b> |

**Table no. (4). Sample distribution by Qualification**

| Qualification     | N          | Percent %  |
|-------------------|------------|------------|
| Basic             | 188        | 32.5       |
| Secondary         | 108        | 18.7       |
| Diploma           | 119        | 20.6       |
| Bachelor or above | 164        | 28.3       |
| <b>Total</b>      | <b>579</b> | <b>100</b> |

**Table no. (5). Sample distribution by Hospital Authority**

| Hospital Authority | N          | Percent %  |
|--------------------|------------|------------|
| Governmental       | 465        | 80.3       |
| Non-Governmental   | 114        | 19.7       |
| <b>Total</b>       | <b>579</b> | <b>100</b> |

**Table no. (6). Sample distribution by Cancer Stage**

| Cancer Stage | N          | Percent %  |
|--------------|------------|------------|
| Stage I      | 120        | 20.7       |
| Stage II     | 188        | 32.5       |
| Stage III    | 164        | 28.3       |
| Stage IIII   | 107        | 18.5       |
| <b>Total</b> | <b>579</b> | <b>100</b> |

**Table no. (7). Sample distribution by Age**

| Variable | N   | Min. | Max. | Mean  | Std. Deviation |
|----------|-----|------|------|-------|----------------|
| Age      | 579 | 18   | 75   | 50.73 | 13.170         |

**Table no. (8). Factor analysis of Toronto Alexithymia Scale (TAS-20) among Palestinian Cancer Patients**

| No. | Items   | Extraction |
|-----|---|------------|
| 1.  | I am often confused about what emotion I am feeling                                       | 0.85       |
| 2.  | It is difficult for me to find the right words for my feelings                            | 0.84       |
| 3.  | I have physical sensations that even doctors don't understand                             | 0.85       |
| 4.  | I am able to describe my feelings easily  | 0.85       |
| 5.  | I prefer to analyze problems rather than just describe them                               | 0.88       |
| 6.  | When I am upset, I don't know if I am sad, frightened, or angry                           | 0.93       |
| 7.  | I am often puzzled by sensations in my body   | 0.86       |
| 8.  | I prefer to just let things happen rather than to understand why they turned out that way | 0.91       |

|     |  |      |
|-----|--|------|
| 9.  | I have feelings that I can't quite identify  | 0.80 |
| 10. | Being in touch with emotions is essential  | 0.81 |
| 11. | I find it hard to describe how I feel about people                                 | 0.82 |
| 12. | People tell me to describe my feelings more  | 0.90 |
| 13. | I don't know what's going on inside me   | 0.79 |
| 14. | I often don't know why I am angry  | 0.85 |
| 15. | I prefer talking to people about their daily activities rather than their feelings | 0.84 |
| 16. | I prefer to watch "light" entertainment shows rather than psychological dramas     | 0.69 |
| 17. | It is difficult for me to reveal my innermost feelings, even to close friends      | 0.84 |
| 18. | I can feel close to someone, even in moments of silence                            | 0.81 |
| 19. | I find examination of my feelings useful in solving personal problems              | 0.92 |
| 20. | I look for hidden meanings in movies or plays                                      | 0.66 |

**Table no. (9). Reliability of Toronto Alexithymia Scale (TAS-20)**

| Model              | No. of items | Alpha |
|--------------------|--------------|-------|
| Cronbach's Alpha   | 20           | 0.94  |
| Guttman Split-Half | 20           | 0.92  |

**Table no. (10). Number, mean, standard deviation, and percentage of prevalence of Alexithymia among Palestinian Cancer Patients**

| Variable                  | N   | Mean* | Std. Deviation | Percent % |
|---------------------------|-----|-------|----------------|-----------|
| Prevalence of Alexithymia | 579 | 3.94  | 0.64           | 78.8      |

\*Mean out of 5 points.

**Table no. (11). Mean scores, standard deviation, and percentage for the indicators of prevalence of Alexithymia among Palestinian Cancer Patients ranked in a descending order**

| Alexithymia indicators  | Mean* | Std. Deviation | Percent % |
|---|-------|----------------|-----------|
| It is difficult for me to find the right words for my feelings                            | 4.45  | 0.61           | 89.0      |
| I am often confused about what emotion I am feeling                                       | 4.29  | 0.78           | 85.8      |
| I find it hard to describe how I feel about people  | 4.28  | 0.69           | 85.6      |
| I often don't know why I am angry   | 4.20  | 0.91           | 84.0      |
| It is difficult for me to reveal my innermost feelings, even to close friends             | 4.19  | 0.99           | 83.8      |
| I don't know what's going on inside me  | 4.12  | 0.96           | 82.4      |
| I prefer to just let things happen rather than to understand why they turned out that way | 4.06  | 0.77           | 81.2      |
| I have feelings that I can't quite identify   | 4.05  | 0.67           | 81.0      |
| People tell me to describe my feelings more   | 4.01  | 0.99           | 80.2      |
| I prefer talking to people about their daily activities rather than their feelings        | 4.00  | 0.65           | 80.0      |
| I am able to describe my feelings easily  | 3.97  | 0.81           | 79.4      |
| I can feel close to someone, even in moments of silence                                   | 3.93  | 0.85           | 78.6      |
| Being in touch with emotions is essential   | 3.92  | 0.92           | 78.4      |

|  |             |             |             |
|--|-------------|-------------|-------------|
| I find examination of my feelings useful in solving personal problems          | 3.85        | 0.81        | 77.0        |
| I prefer to analyze problems rather than just describe them                    | 3.83        | 0.99        | 76.6        |
| I am often puzzled by sensations in my body                                    | 3.80        | 0.68        | 76.0        |
| I look for hidden meanings in movies or plays                                  | 3.79        | 0.92        | 75.8        |
| I prefer to watch "light" entertainment shows rather than psychological dramas | 3.72        | 0.78        | 74.4        |
| I have physical sensations that even doctors don't understand                  | 3.42        | 0.87        | 68.4        |
| When I am upset, I don't know if I am sad, frightened, or angry                | 3.06        | 0.68        | 61.2        |
| <b>Total</b>   | <b>3.94</b> | <b>0.64</b> | <b>78.8</b> |

\*Mean out of 5 points.

**Table no. (12). T-test for the Differences in Prevalence of Alexithymia Among Palestinian Cancer Patients According to Gender**

| Gender       | N          | Mean*       | Std. Deviation | Df  | T-value | Sig.  |
|--------------|------------|-------------|----------------|-----|---------|-------|
| Male         | 241        | 3.99        | 0.44           | 577 | 1.560   | 0.119 |
| Female       | 338        | 3.91        | 0.75           |     |         |       |
| <b>Total</b> | <b>579</b> | <b>3.94</b> | <b>0.64</b>    |     |         |       |

\*Mean out of 5 points.

**Table no. (13). T-test for the Differences in Prevalence of Alexithymia Among Palestinian Cancer Patients According to Marital Status**

| Marital Status | N          | Mean*       | Std. Deviation | Df  | T-value | Sig.  |
|----------------|------------|-------------|----------------|-----|---------|-------|
| Single         | 136        | 3.73        | 0.63           | 577 | -4.445  | 0.000 |
| Married        | 443        | 4.01        | 0.64           |     |         |       |
| <b>Total</b>   | <b>579</b> | <b>3.94</b> | <b>0.64</b>    |     |         |       |

\*Mean out of 5 points.

**Table no. (14). One-way analysis of variance for the differences in Prevalence of Alexithymia Among Palestinian Cancer Patients According to Qualification**

| Source         | Df  | Sum of squares | Mean square | F-value | Sig.  |
|----------------|-----|----------------|-------------|---------|-------|
| Between groups | 3   | 31.348         | 10.449      | 28.765  | 0.000 |
| Within groups  | 575 | 208.873        | 0.363       |         |       |
| Total          | 578 | 240.221        | -----       |         |       |

**Table no. (15). Tukey test for the source of differences in Prevalence of Alexithymia Among Palestinian Cancer Patients According to Qualification**

| Educational level  | Basic | Secondary | Diploma  | Bachelor and above |
|--------------------|-------|-----------|----------|--------------------|
| Basic              |       | 0.29968*  | 0.40881* | 0.58189*           |
| Secondary          |       |           | 0.10912  | 0.28220*           |
| Diploma            |       |           |          | 0.17308            |
| Bachelor and above |       |           |          |                    |

**Table no. (16). Mean scores and standard deviation for the differences in Prevalence of Alexithymia Among Palestinian Cancer Patients According to Qualification**

| Qualification      | N          | Mean*       | Std. Deviation |
|--------------------|------------|-------------|----------------|
| Basic              | 188        | 4.25        | 0.50           |
| Secondary          | 108        | 3.95        | 0.39           |
| Diploma            | 119        | 3.84        | 0.78           |
| Bachelor and above | 164        | 3.67        | 0.66           |
| <b>Total</b>       | <b>579</b> | <b>3.94</b> | <b>0.64</b>    |

\*Mean out of 5 points.

**Table no. (17). T-test for the Differences in Prevalence of Alexithymia Among Palestinian Cancer Patients According to Hospital Authority**

| Hospital Authority | N          | Mean*       | Std. Deviation | Df  | T-value | Sig.  |
|--------------------|------------|-------------|----------------|-----|---------|-------|
| Governmental       | 465        | 3.92        | 0.62           | 577 | -1.739  | 0.083 |
| Non-Governmental   | 114        | 4.04        | 0.69           |     |         |       |
| <b>Total</b>       | <b>579</b> | <b>3.94</b> | <b>0.64</b>    |     |         |       |

\*Mean out of 5 points.

**Table no. (18). Regression Coefficients between Age, Cancer Stage and Prevalence of Alexithymia Among Palestinian Cancer Patients**

| Variables    | N   | Beta  | Sig.  |
|--------------|-----|-------|-------|
| Age          | 579 | 0.193 | 0.000 |
| Cancer Stage | 579 | 0.615 | 0.000 |

R Square= 0.486